

# Munich Dunkel

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **26**
- SRM **19.9**
- Style **Munich Dunkel**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **70 C**, Time **60 min**

## Mash step by step

- Heat up **15.4 liter(s)** of strike water to **77.1C**
- Add grains
- Keep mash **60 min** at **70C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Pilzneński                  | 2 kg (45.5%)   | 81 %  | 4.5 |
| Grain | Monachijski I - Viking Malt | 1.6 kg (36.4%) | 78 %  | 16  |
| Grain | Special X Bestmaltz         | 0.8 kg (18.2%) | 75 %  | 350 |

## Hops

| Use for | Name         | Amount | Time   | Alpha acid |
|---------|--------------|--------|--------|------------|
| Boil    | Polaris (DE) | 10 g   | 40 min | 20.8 %     |
| Boil    | Opal (DE)!   | 10 g   | 20 min | 8.4 %      |

## Yeasts

| Name          | Type  | Form | Amount | Laboratory |
|---------------|-------|------|--------|------------|
| Saflager S-23 | Lager | Dry  | 11.5 g | Fermentis  |